

Figure 1

M K L P V R L L V L M F W I P A
ATG AAG TTG CCT GTT AGG CTG TTG GTG CTG ATG TTC TGG ATT CCT GCT
S S D
TCC AGC GAT (-1 to -19, leader)

D V L M T Q T P L S L P V S L G
GAT GTT TTG ATG ACC CAA ACT CCA CTC TCC CTG CCT GTC AGT CTT GGA
D Q A S I S C
GAT CAA GCC TCC ATC TCT TGC (1-23, Frame work 1)

R S S Q S I V H S N G N T Y L E
AGA TCT AGT CAG AGC ATT GTA CAT AGT AAT GGA AAC ACC TAT TTA GAA
(24-39, CDR 1)

W Y L Q K P G Q S P N L L I Y
TGG TAC CTA CAG AAA CCA GGC CAG TCT CCA AAC CTC CTG ATC TAC
(40-54, Frame work 2)

F V S N R F S
TTT GTT TCC AAC CGA TTT TCT (55-61, CDR 2)

G V P D R F S G S G S G T D F T
GGG GTC CCA GAC AGG TTC AGT GGC AGT GGA TCA GGG ACA GAT TTC ACA
L K I S R V E A E D L G V Y Y C
CTC AAG ATC AGC AGA GTG GAG GCT GAG GAT CTG GGA GTT TAT TAC TGC
(62-93, Frame work 3)

F Q G S H V P W T
TTT CAA GGT TCA CAT GTT CCG TGG ACG
(94-102, CDR 3)

F G G T K L E I K
TTC GGT GGA GGC ACC AAG CTG GAA ATC AAA
(103-112, Frame work 4)

R A D A A P T V S I F P P
CGG GCT GAT GCT GCA CCA ACT GTA TCC ATC TTC CCA CCA

S S K L G
TCC AGT AAG CTT GGG (Constant region)

24

Figure 2

M A V L G L L F C L V T F P S C
ATG GCT GTC TTG GGG CTG CTC TTC TGC CTG GTG ACA TTC CCA AGC AGC TGT
V L S
GTC CTG TCC (-1 to -19, Leader)

Q V Q V K E S G P F L V P P S Q
CAG GTG CAG GTG AAG GAG TCA GGA CCT TTC CTG GTG CCC CCC TCA CAG
S L S I T C T V S G F S L T
AGC CTG TCC ATC ACA TGC ACT GTC TCA GGG TTC TCA TTA ACC
(1-30, Frame work 1)

T Y G V S
ACC TAT GGT GTA AGC (31-35, CDR 1)

W I R Q P P G K G L E W L G
TGG ATT CGC CAG CCT CCA GGA AAG GGT CTG GAG TGG CTG GGA
(36-49, Frame work 2)

A I W G D G T T N Y H S A L I S
GCA ATT TGG GGT GAC GGG ACC ACA AAT TAT CAT TCA GCT CTC ATA TCC
(50-65, CDR 2)

R L S I S K D N S K S Q V F L K
AGA CTG AGC ATC AGC AAG GAT AAC TCC AAG AGC CAA GTT TTC TTA AAA
L N S L Q T D D T A T Y Y C A K
CTG AAC AGT CTG CAA ACT GAT GAC ACG GCC ACG TAC TAC TGT GCC AAA
(66-97, Frame work 3)

L G N Y D A L D W
CTG GGT AAC TAC GAT GCT CTG GAC TAC
(98-106, CDR 3)

W G Q G T S V T V S S
TGG GGT CAA GGA ACC TCA GTC ACC GTC TCC TCA
(107-117, Frame work 4)

A K T T P P P V Y P L V P G S L
GCC AAA ACG ACA CCC CCA CCC GTC TAT CCA TTG GTC CCT GGA AGC TTG GG
(Constant region)

Figure 3(A)

1A7:	1	DVLMTQTPLSLPVSLGDQASISCRSSQSIVHNSGNTYLEWYLQKPGQSPNLLIYFVSNRF	60
1	1	.....K.....	60
2	1	.....K.....	60
3	1	V.....K.....	60
4	1	.....K.....	60
5	1	.....K.....	60
6	1	.....K.....	60
7	1	.....K.....	60
8	1	.....X.K.....	60
9	5	S..F.....K.....	64
10	1	.....K.....	60
11	1	.....K.....	60
12	20	.....K.....	79
13	1	.....K.....L	60
14	1	.....K.....	60
15	5	S..F.....K.....	64
1A7:	61	SGVPDRFSGSGSGTDFTLKISRVEAEDLGVYYCFQGSHVPWTGGGTKLEIK	112
1	61	.....	112
2	61	.....	112
3	61	.....	112
4	61	.....	111
5	61	X.....	112
6	61	.....Y.....	112
7	61	C.....	111
8	61	.....	111
9	65	T.....	116
10	61	R.....Y.....	112
11	61	.....R.....	112
12	80	.....Y..S.....	131
13	61	.....Y.....	112
14	61	.....W.....Y.....	112
15	65	Q.....T.....	116

Figure 3(B)

1A7:	1	QVQVKESGPFLVPPSQSLITCTVSGFSLTTYGVSWIRQPPGKGLEWLGAIWGDGTNYH	60
1	1	.G..A.....S....V.....V....S....	52
2	1	..LQ...G..A.....S..IT.V.....V....N....	60
3	20	..L...G..A.....G..N.V.....T...N.S.D.N	79
4	1	..L..T..G..A.....S..H.V.....VV..S..S...N	60
5	1	..L...G..A.....S..H.V.....V..AG.S...N	60
6	1	..L...G..A.....S..H.V.....V..AG.S...N	60
7	1	..L...G..A.....P..S..D.V.....V..G.S...N	60
8	23	..LQ...G..A.....G..N.V.....M....N.D.N	82
9	1	..L...G..A.....G..N.V.....M....N.D.N	60
10	133	..LQ...G..A.....G..N.V.....M....N.D.N	192
11	20	..L...G..A.....G..N.V.....M....N.D.N	79
12	1	..L...G..A.....SR.S.H.V.....M...G.N.D.N	60
13	21	.HL...V..A.....N..H.V.....V..AG.N..N	80
14	23	..LQ...G..A.....G..N.V.....M....N.D.N	82
15	1	..LQ...G..A.....G..N.V.....M....N.D.N	60
1A7:	61	SALISRLSISKDNSKSQVFLKLNSLQTDDTATYYCAKL-.....GNYDALDWGQGTSVTVSS	117
1	53	.....P-----YDYExxxxx.Y....TL..	109
2	61	.....x-----xxxxxxxx.K.Y.....	120
3	80	.T.K..T.T.....M.....R...SVSIYYYGRSDK.FT.Y.....	144
4	61	..K.....M.....M...Rx-----xx.D.Y.M.Y.....	119
5	61	..M.....M.....M...Rx-----xxxxx.Y.M.Y.....	120
6	61	..M.....M.....M...Rx-----xxxx.Y.M.Y.....	118
7	61	..M.....M..X...M...xx-----xxx.X.Y.M.Y.....	119
8	83	..K.....M..H...R...RE-----=RDYR..Y....T....	138
9	61	..K.....M..H...R...RE-----=RDYR..Y....TL....	116
10	193	..K.....M..H...R...RE-----=RDYR..Y....T....	248
11	80	..K.....M..H...R...RE-----=RDYR..Y....TL....	135
12	61	..K.....M.....M...RD-----GYYDx.M.Y.....	117
13	81	..M.....M..I...I...x-----xxxxx.Y.M.Y.....	139
14	83	..K.....M..H...R...RE-----=RDYR..Y....T....	138
15	61	..K.....M..H...R...RE-----=RDYR..Y....T....	116

Figure 3(C)

VL consensus:	1	DVLMTQTPLSLPVSLGDQASISCRSSQSIVHSNGNTYLEWYLQKKQSPKLLIYFVSNRF	60
1A7:	1	.....P....N.....	60

VL consensus:	61	SGVPDRFSGSGTDFTLKISRVEAEDLGVYYCFQGSHVPWTGGGTKLEIK	112
1A7:	61	.....	112

VH consensus:	1	QVQLKESGPLVAPSQSLSITCTVSGFSLTSYGVHWVRQPPGKGLEWLGVVIWGDGSTYN	60
1A7:	1	...V.....F..P.....T...S.I.....A.....T...H	60

VH consensus:	61	SALKSRLSISKDNSKSQVFLKMNSLQTDDTARYYCARExxxxYYAMDYWGQGTSVTVSS	119
1A7:	61	...I.....L.....T...KL--GN.D.L.W.....	117

Figure 4

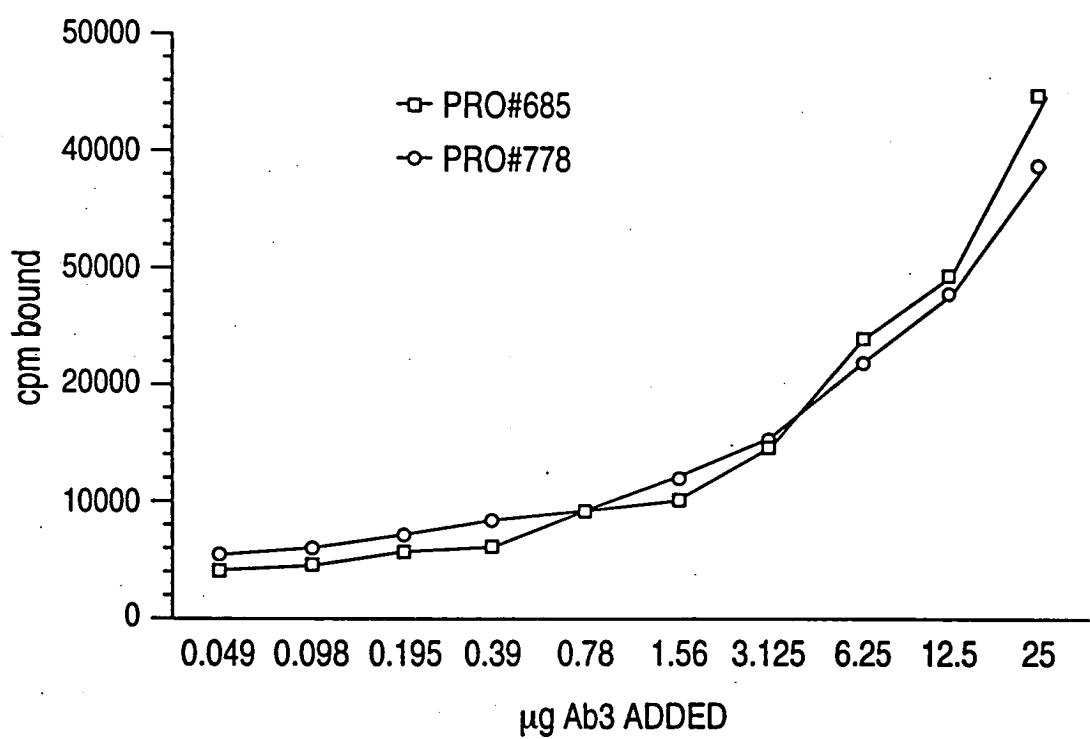


Figure 5

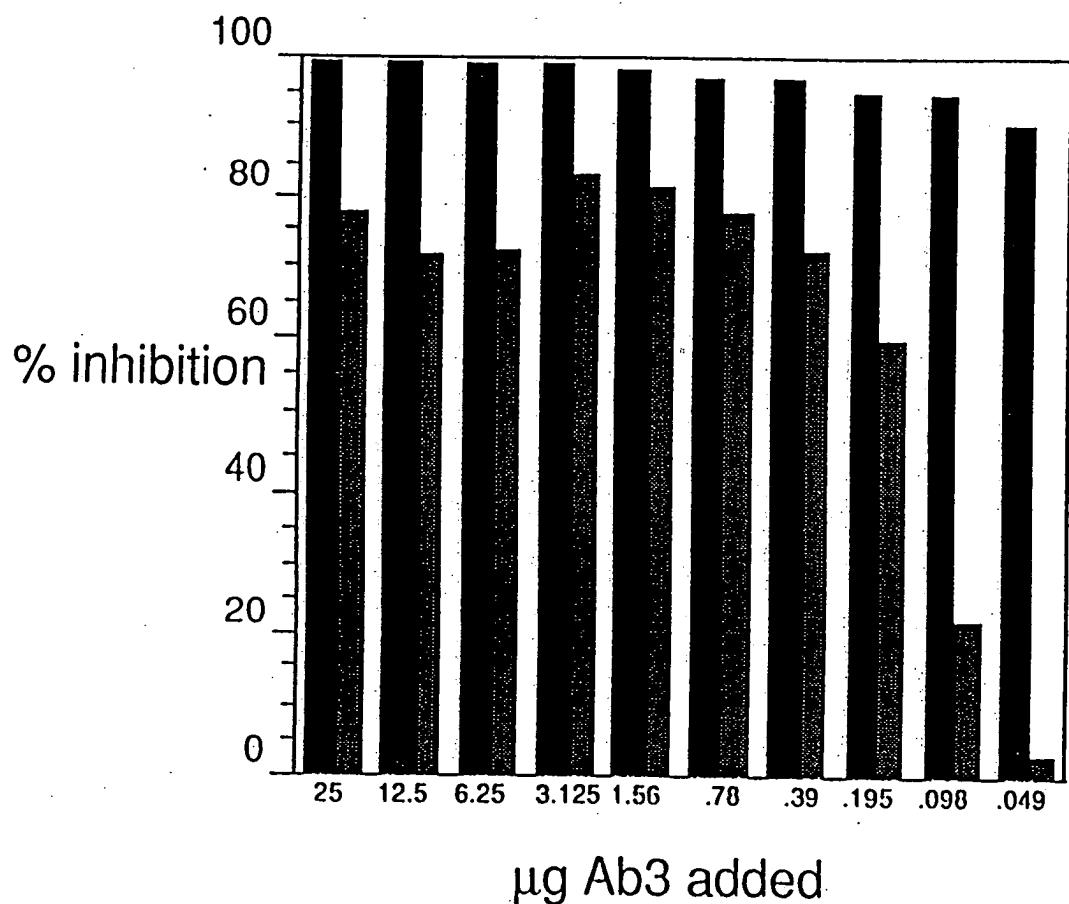


Figure 6

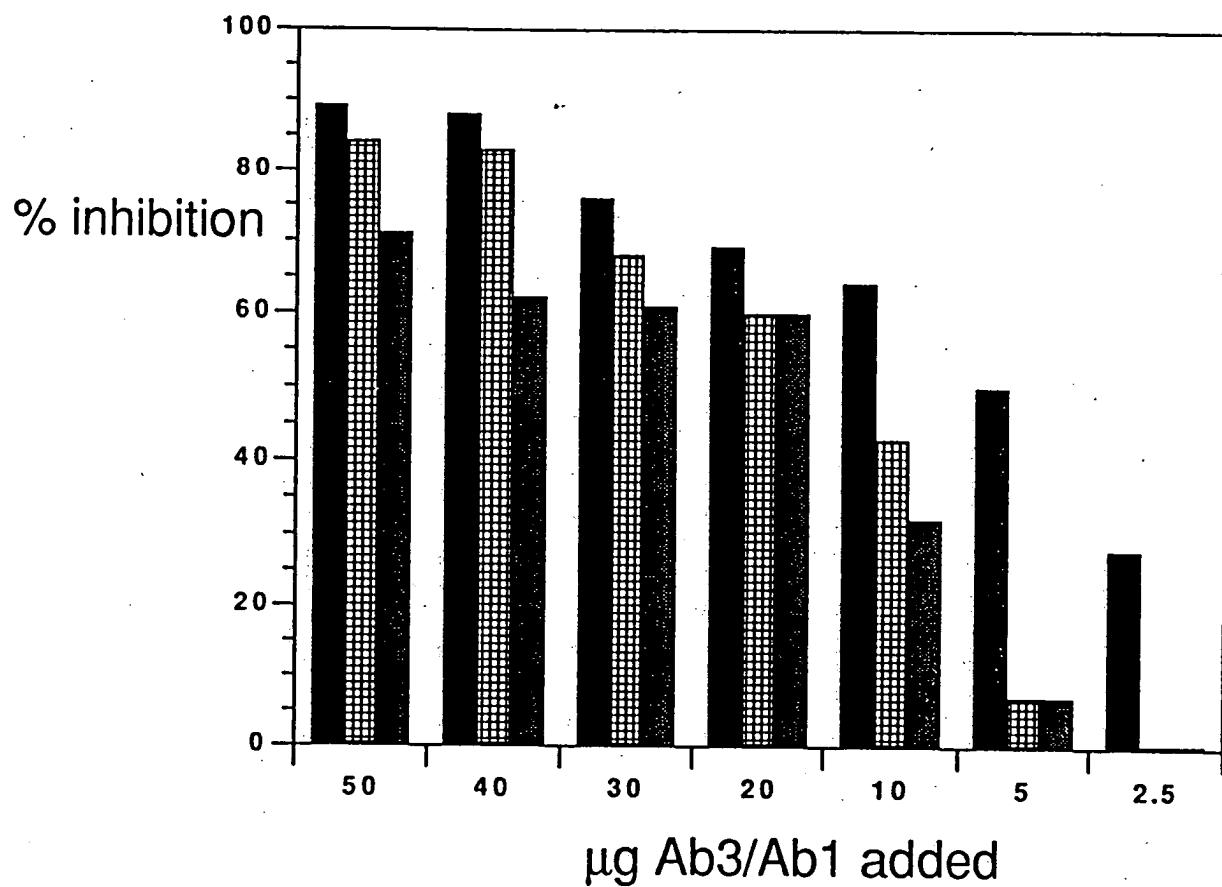


Figure 7(A)

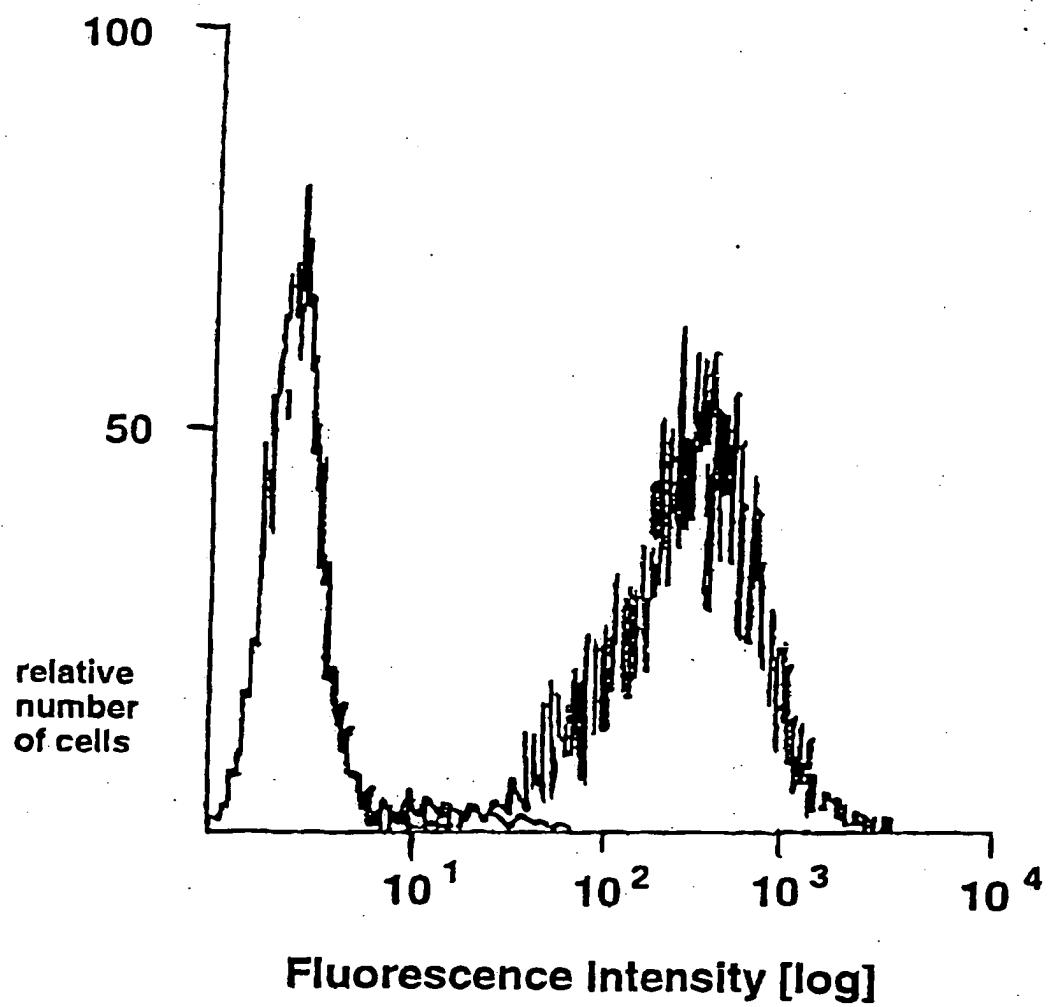


Figure 7(B)

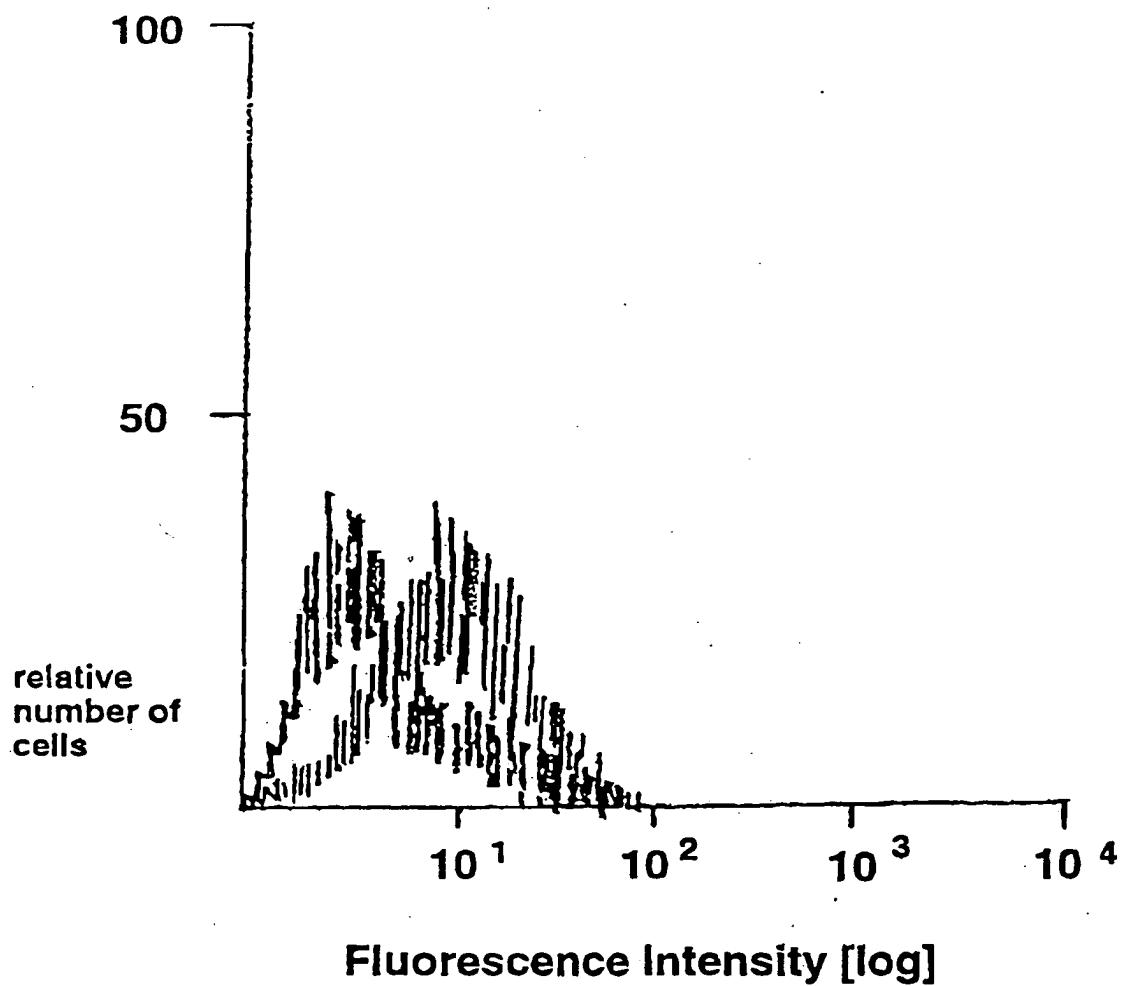


Figure 7(C)

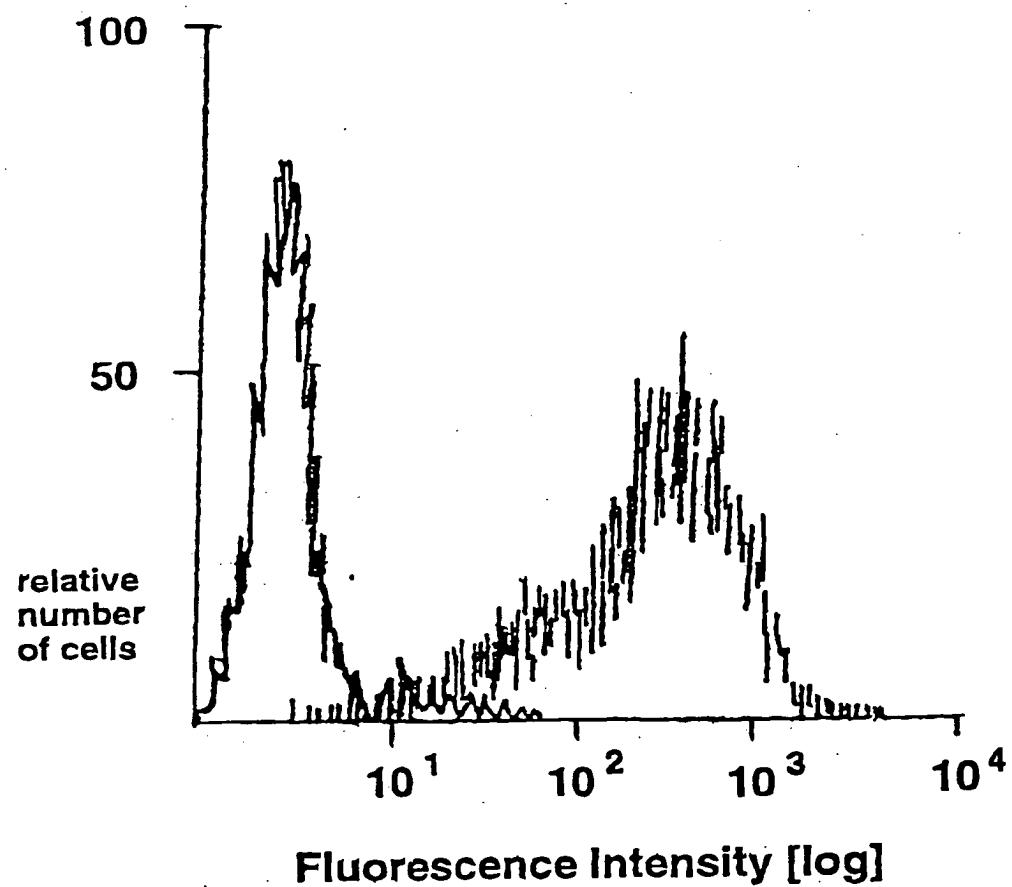


Figure 8

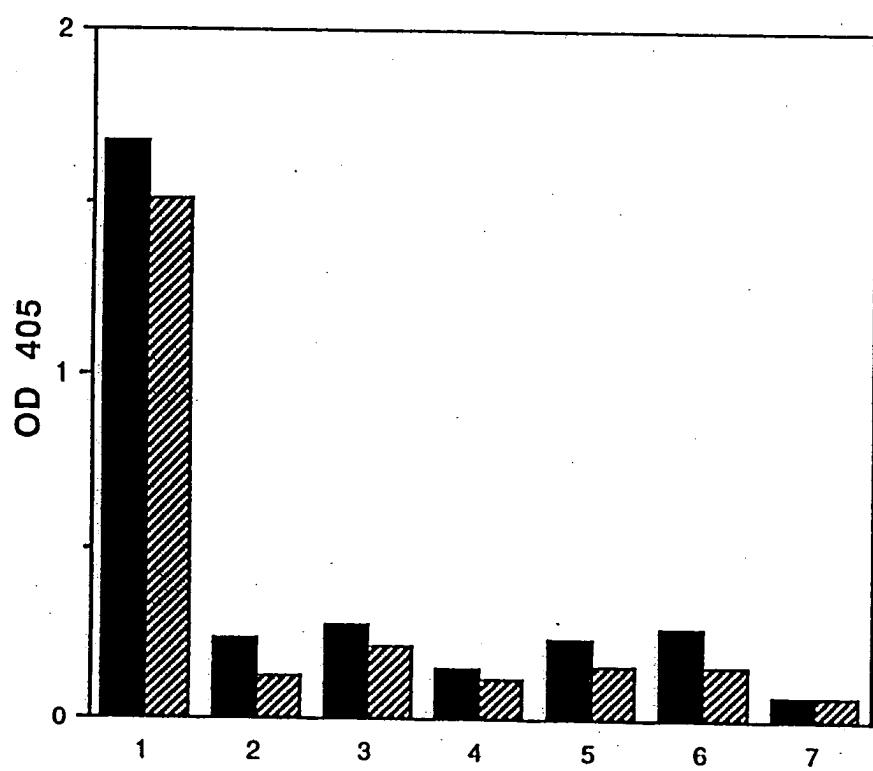


Figure 9

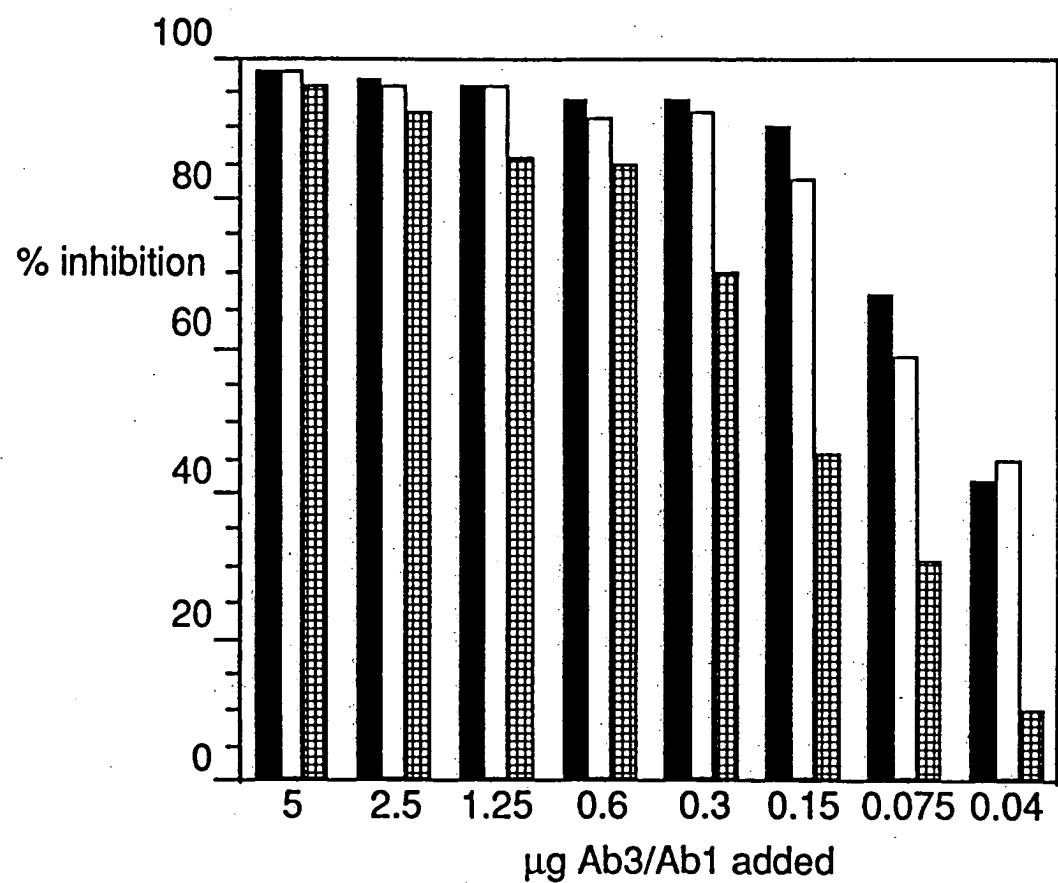


Figure 10

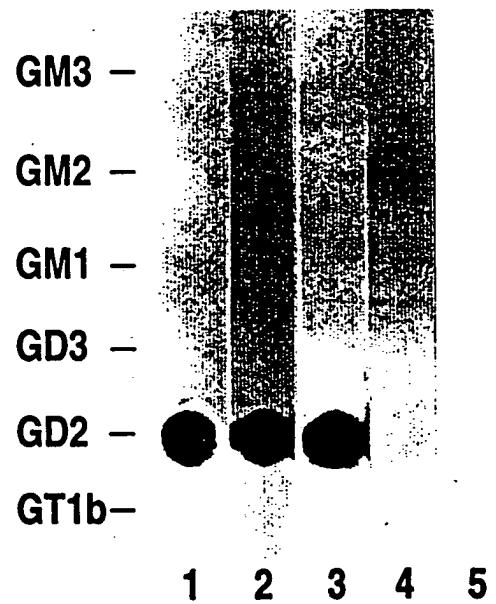


Figure 11

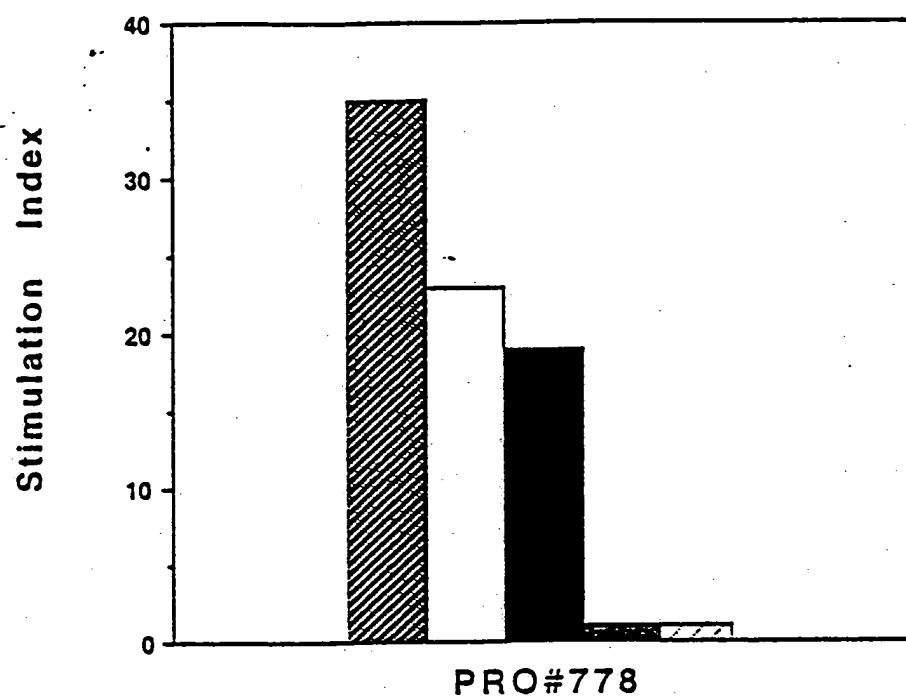


Figure 12

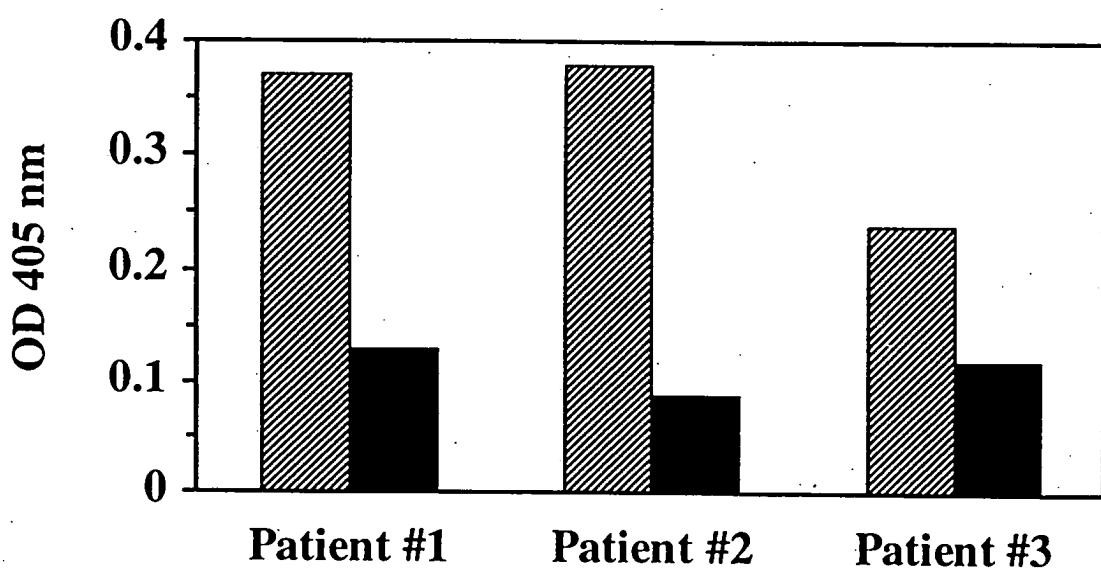
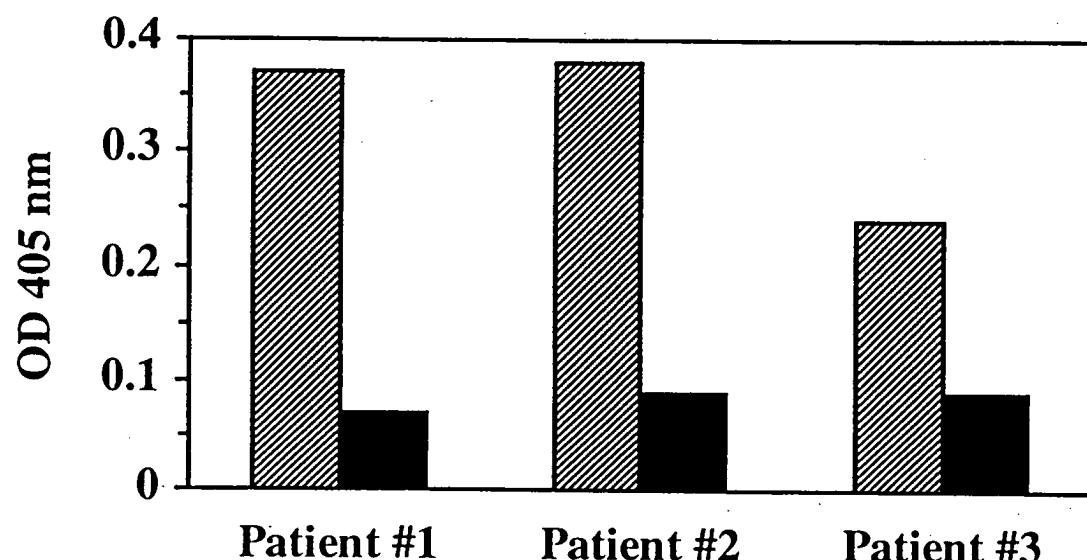


Figure 13

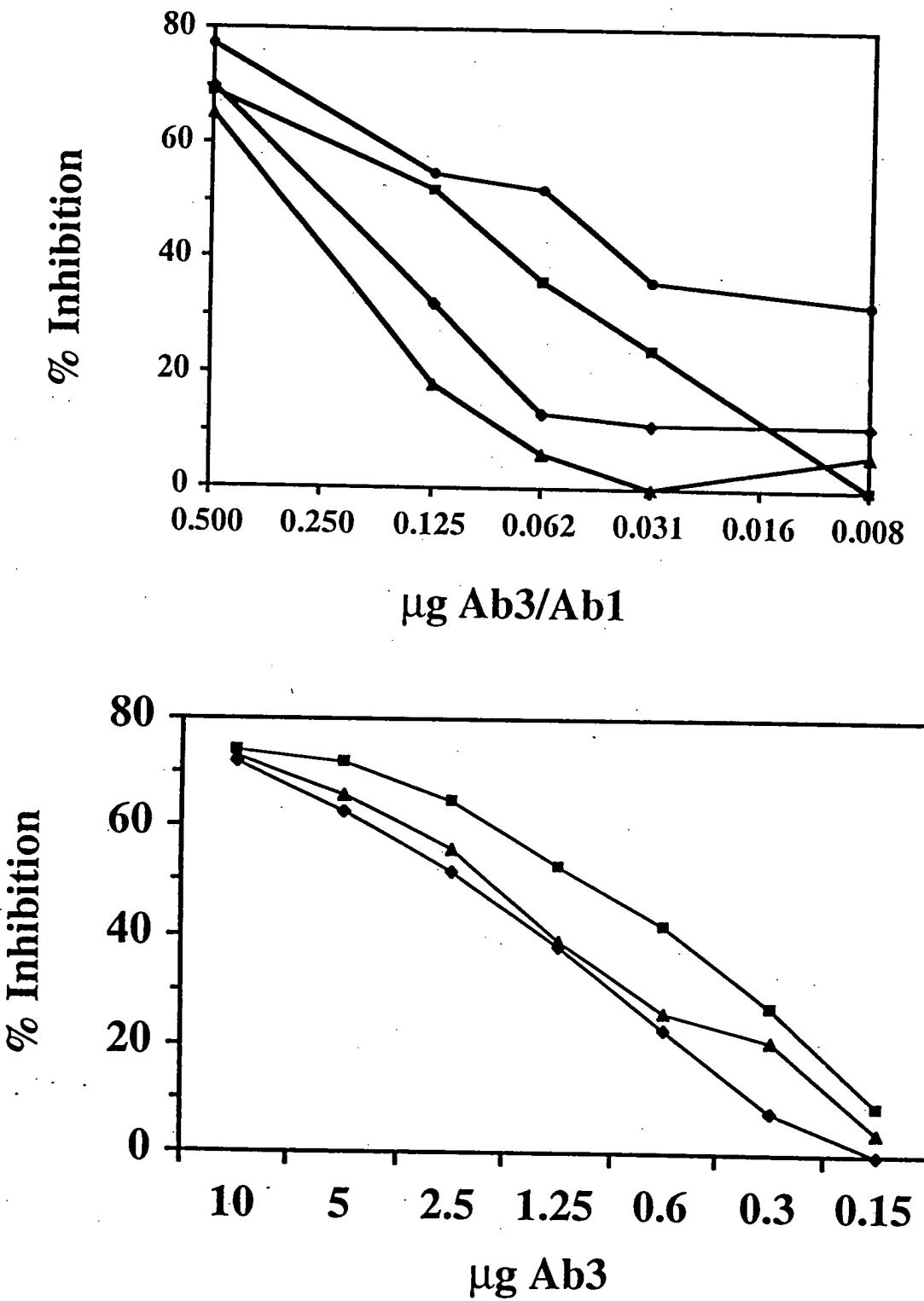


Figure 14

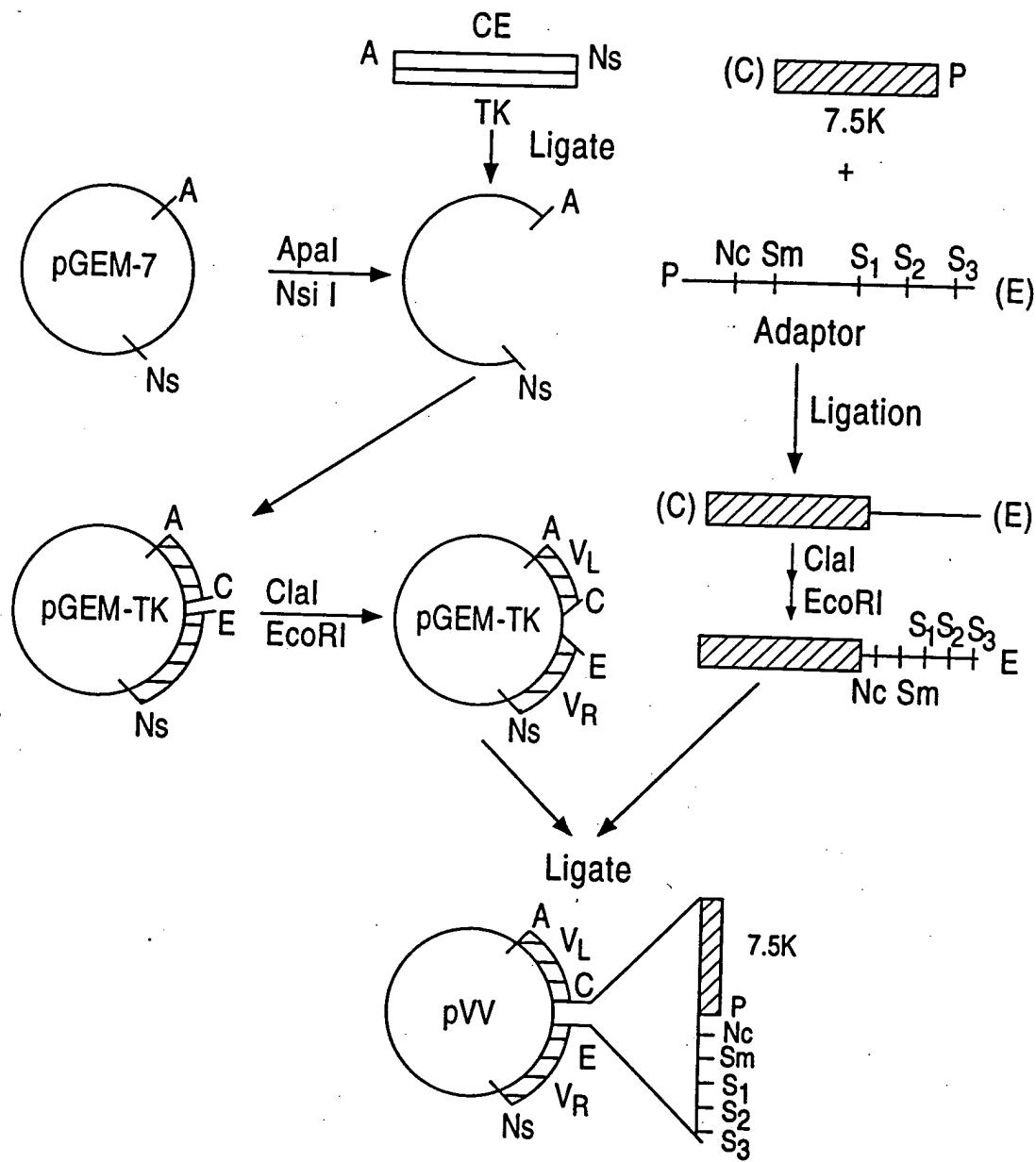


Figure 15

GCCGATATCACC! ATGGCTGTCTGGGGCTGCTCTGCCTGGTACATTCCAAGC
TGTGTCTGTCCCAGGTGCAGGTGAAGGAGTCAGGACCTTCTGGTGCCCCCTCA
CAGAGCCTGTCCATCACATGCACTGTCTCAGGGTTCTCATTAACCACCTATGGTGTAA
AGCTGGATTGCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGAGCAATTGGGG
TGACGGGACCACAAATTATCATTAGCTCTCATATCCAGACTGAGCATCAGCAAGGA
TAACTCCAAGAGCCAAGTTTCTTAAAACCTGAACAGTCTGCAAACACTGATGACACGGC
CACGTACTACTGTGCCAAACTGGTAACTACGATGCTCTGGACTACTGGGTCAAGG
AACCTCAGTCACCGTCTCCTCAGGGGGAGGTGGCTGGCGGTGGCTGGTGG
CGGCGGATCCGATGTTTGTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTTGGAA
GATCAAGCCTCCATCTTCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAAC
ACCTATTAGAATGGTACCTACAGAAACCAGGCCAGTCTCCAAACCTCCTGATCTAC
TTTGTTCACACTCAAGATCAGCAGAGTGGAGGCTGAGGATCTGGAGTTATTAC
TGCTTCAAGGTTCACATGTTCCGTGGACGTTGGTGGAGGCACCAAGCTGGAAATC
AAATAATCTAGAGATG

1	mavlgllfcl	vtfpscvsq	vqvkesgpfl	vppsqslsit	ctvsgfsltt
51	ygvswirqpp	gkglewlga	wgdgtnyhs	alisrlsisk	dnsksqvflk
101	lnslqtddta	tyycaklgny	daldywqqt	svtvssgggg	sggggsgggg
151	sdvlmtqtpl	slpvslgdqa	siscrssqsi	vhsngntyle	wylqpgqsp
201	nlliyfvsnr	fsgvpdrfsg	sgsgtdftlk	isrveaedlg	vyycfqgshv
251	pwtfgggtkl	eik			

Figure 16

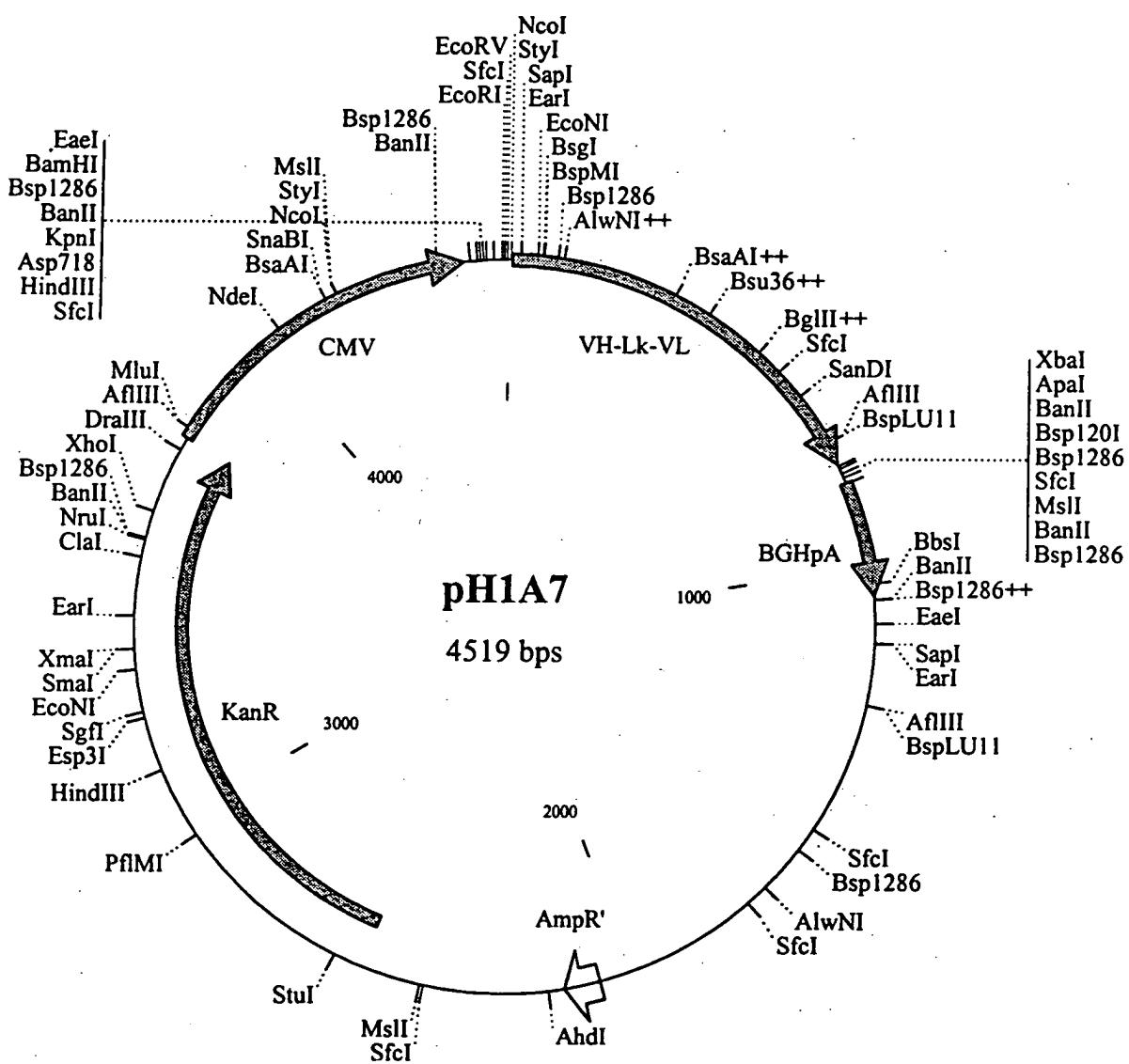


Figure 17(A)

>gb|L22327|MUSIGKAVAA Mouse rearranged immunoglobulin kappa-chain mRNA V-J
1 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGGATTGTACATAGTAATGGAAACACCTATTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCAAGTCAGTGGCACTGGATCAGGGACAGATTCAACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGCACCAAGCTGAAATCAA 336

>gb|L18941|MUSIG4388 Mouse rearranged immunoglobulin light chain Ab438 mRNA V-J
1 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGGATTGTACATAGTAATGGAAACACCTATTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCAAGTCAGTGGCACTGGATCAGGGACAGATTCAACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGCACCAAGCTGAAATCAA 336

>gb|M34588|MUSIGKABR Mouse Ig kappa-chain mRNA V-J region, partial cds.
1 GATTTTGATGACCCAAACTCCACTCTCCCTNCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGGATTGTACATAGTAATGGAAACACCTATTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCAAGTCAGTGGCACTGGATCAGGGACAGATTCAACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGCACCAAGCTGAAATCAA 336

>gb|M32857|MUSIGKCSP Mouse Ig rearranged kappa-chain mRNA V-region, partial
1 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGGATTGTACATAGTAATGGAAACACCTATTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCAAGTCAGTGGCACTGGATCAGGGACAGATTCAACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGCACCAAGCTGAAATCAA 333

>gb|M83723|MUSIGKD2A Mouse monoclonal antiidiotypic antibody Ig kappa light
1 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGGATTGTACATAGTAATGGAAACACCTATTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCAAGTCAGTGGCACTGGATCAGGGACAGATTCAACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 CGGACGTTCGGTGGAGGCACCAAGCTGAAATCAA 336

>emb|Z22035|MDIGKVAH M.domesticus IgK variable region.
1 GATTTGTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGGATTGTACATAGTAATGGAAACACCTATTAGAATGG 120
121 TACCTGCAGAAAGCAGGCCAGTCTCCAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCAAGTCAGTGGCACTGGATCAGGGACAGATTCAACTCAAGATC 240
241 ACCAGAGTGGAGGCTGAGGATCTGGAGTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGCACCAAGCTGAAATCAA 336

Figure 17(B)

>gb|M34589|MUSIGKABS Mouse Ig kappa-chain mRNA-V-J region, partial cds.

1 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAAGCTCTNATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGANAGGTTCACTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGACTGGAGGCTGAGGATCTGGAGTTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGACCAACGCTGGAAATCAA 336

>gb|M32858|MUSIGKCSQ Mouse Ig rearranged kappa-chain mRNA V-region, partial

1 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 60
61 ATCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 120
121 TACCTGCAGAAACCAGGCCAGTCTCCAAAAGCTCTGATCTACAAAGTTCCAACCGATT 180
181 TCTGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 240
241 AGCAGACTGGAGGCTGAGGATCTGGAGTTTATTACTGCTTCAGGTTCACATGTTCCG 300
301 TGGACGTTCGGTGGAGGACCAACGCTGGAAATCAA 333

>emb|X87231|MMKAPLI M.musculus mRNA for antibody light chain

89 GATTTTAATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 148
149 ATCTTGCAGATCTAGTCAGAGCATTGTACATAGTAATGGAAACACCTATTTAGAATGG 208
209 TACCTGCAGAAACCAGGCCAGTCTCCAAAAGCTCTGATCTACAAAGTTCCAACCGATT 268
269 TCTGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 328
329 AGCAGACTGGAGGCTGAGGATCTGGAGTTTATTACTGCTTCAGGTTCACATGTTCCG 388
389 TGGACGTTCGGTGGAGGACCAACGCTGGAAATCAA 424

>gb|U29428|HMU29428 Mus musculus anti-PC rearranged Ig kappa chain V-J region

13 GATTTTGATGACCCAAACTCCACTCTCCCTGCCGTCAAGTCAGTCTGGAGATCAAGCCTCC 72
73 ATCTTGCAGATCTAGTCAGAGCATTGTACATAGTAAGTGAGTTCAACCTTTAGAATGG 132
133 TACCTGCAGAAACCAGGCCAGTCTCCAAAAGCTCTGATCTACAAAGTTCCAACCGATT 192
193 TCTGGGTCCCAGACAGGTTCACTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATC 252
253 AGCAGGGTGGAGGCTGAGGATCTGGAGTTTATTACTGCTTCAGGTTCACACATGTTCCG 312
313 TGGACGTTCGGTGGAGGACCAACGCTGGAAATCAA 348

Figure 18(A)

>gb|U01185|MMU01185 *Mus musculus* BALB/c anti-glycophorin A type N

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACATGCACTGTCTCAGGGTTCTCATTAACCAGCTATGGTATAACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGTGACGGAAACACAATTATCAT 180
181 TCAGCTCTCATATCCAGACTGAGCATCAGCAAGGATAACTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTATGACACAGCCACGCTACTGTGCCAAA 291
292 ----- 315
316 GCTAAGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA 360

>gb|M26985|MUSIGH1PR *Mus musculus* productively rearranged IgM chain allele 1,

1 CAGGTGCAGCTGAAGGAGACAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACATGCACTGTCTCAGGGTTCTCATTAACCAGCTATGGTATAACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGTGATGGAAGCACAATTATCAT 180
181 TCAGCTCTCATAAATCCAGACTGAGCATCAGCAAGGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTATGACACAGCCACGCTACTGTGCCAGAC 292
293 ----- 300
301 GGTGACTACTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA 357

>dbj|D17387|PVY1B Potato virus Y immunoglobulin gene for monoclonal antibody

58 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 117
118 ACATGCACTGTCTCAGGGTTCTCATTAACCAGCTATGGTATAACTGGGTTGCCAGCCT 177
178 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGTGACGGGAGCACAAATTATCAT 237
238 TCAGCTCTCATATCCAGACTGAGCATCAGCAAGGATAACTCCAAGAGCCAAGTTTCTTA 297
298 AAAATGAACAGTCTGCAAACGTATGACACAGCCACGCTACTGTGCCAGCATCTTGAC 357
358 TAC 360
361 TGGGGCCAAGGCACCACTCTCACAGTCTCCTCA 393

>gb|M36228|MUSIGHAEI Mouse Ig heavy-chain mRNA V region, partial cds from

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACTGTCTGGTTTCTCATTAACCAGCTATGGTATAACTGGGTTGCCAGCCT 120
121 CCAGGAAAGGGTCTGGAGTGGCTGGAGTAATATGGGTGGAAGCACAATTATAAT 180
181 TCGGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTATGACACAGCCATGTACTACTGTGCCAGAGGGCATTAC 300
301 TACG 304
305 - 305
306 CTACTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCC 354

>gb|L48671|MUSAB *Mus musculus* (cell line C3H/F2-22) chromosome 12 anti-DNA

1 CAGGTGCAGCTCAAGGAGTCAGGACCTGTCTCGTGGCGCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACTGTCTGGTTTCTCATTAACCAGCTATGGTATAACTGGGTTGCCAGCCT 120
121 CCAGGCAAGGGTCTGGAGTGGCTGGAGTAATATGGGTGGAAGCACAATTATAAT 180
181 TCAGCTCTCATGTCCAGACTGAGCATCAGCAAAGACAACCTCCAAGAGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTATGACACAGCCATGTACTACTGTGCCAAAC 292
293 ----- 304
305 ACAATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACNGTCTCCTCA 354

Figure 18(B)

>emb|X75099|MNASWS1H M.musculus (A.SW) mRNA for ASWS1 antibody heavy chain

1 CAGGTNCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCACCCCTCACAGAGCCTGTCCATC 60
61 ACATGCACTGTCTCGGGTTCTCATATTATCCAGATATACTGTACACTGGTTCGCCAGCCT 120
121 CCAGGAAAGGGCTTGAGTGGCTGGAAATGATATGGGCTGGTGGAAACACAGACTATAAT 180
181 TCAGCTCTCAAATCAGACTGAGCATCAGCAAGGACAACCTCCAAGGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCCAGAGATGGTTAC 300
301 TACGACTATGCTATGGACTCTGGGTCAAGGAACCTCAGTCACCGTCTCC 351

>gb|M36217|MUSIGHADX Mouse Ig heavy-chain mRNA V region, partial cds.

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACTGTCTCGGGTTTCTTAACCAACTATGGTACACTGGTTCGCCAGCCT 120
121 CCAGGAAAGGGCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 180
181 TCAGCTCTCATGTCAGACTGAGCATCAGCAAGACAACCTCCAAGGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCCAGA 291
292 ----- 312
313 TACTATGCTATGGACTCTGGGTCAAGGAACCTCAGTCACCGTCTCC 360

>gb|J04609|MUSIGMAF Mus musculus IgM chain (anti-fluorescein antibody 18-2-3)

67 CACGTGCACCTGAAGGAGTCAGGACCTGTCCCTGGTGGCCCTCACAGAGCCTGTCCATC 126
127 ACTTGCACTGTCTCGGGTTTCTTAACCAACTATGGTACACTGGTTCGCCAGCCT 186
187 CCAGGAAAGGGCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 246
247 TCAGCTCTCATGTCAGACTGAGCATCAGCAAGACAATTCCAAGGCCAAGTTTCTTA 306
307 AAAATGAACAGTCTGCAAATTGATGACACAGCCATATACTACTGTGCCAAC 358
359 ----- 375
376 TACTATGCTATGGACTCTGGGTCAAGGAACCTCAGTCACCGTCTCTCA 426

>gb|M34626|MUSIGHACK Mouse Ig rearranged heavy chain (NC19-F8) mRNA VH-DH-JH4

1 CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCCCTCACAGAGCCTGTCCATC 60
61 ACTTGCACTGTCTCGGGTTTCTTAACCAACTATGGTACACTGGTTCGCCAGCCT 120
121 CCAGGAAAGGGCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 180
181 TCAGCTCTCATGTCAGACTGAGCATCAGCAAGACAACCTCCAAGGCCAAGTTTCTTA 240
241 AAAATGAACAGTCTGCAAACGTGATGACACAGCCATGTACTACTGTGCC 288
289 ----- 299
300 ACGGGNNTTACTATGCTATGGACTCTGGGTCAAGGAACCTCAGTCACCGTCTC 356

>gb|L31403|MUSIGHCVX Mouse immunoglobulin heavy chain variable region (Igh-V)

58 CAGGTGCACCTGAAGGAGTCAGGACCTGGCCTGGTGGCCCTCACAGAGCCTGTCCATC 117
118 ACTTGCACTGTCTCGGGTTTCTTAACCAACTATGGTACACTGGTTCGCCAGCCT 177
178 CCAGGAAAGGGCTGGAGTGGCTGGAGTAATATGGGCTGGTGGAAACACAATTATAAT 237
238 TCAGCTCTCATGTCAGACTGAGCATCAACAAAGACAACCTCCAAGGCCAAGTTTCTTA 297
298 AAAATGAACAGTCTGCAAAGCTGATGACACAGCCATGTACTACTGTGCCAGATT 350
351 ----- 367
368 ACGACTATGCTGTGGACTCTGGGTCAAGGAACCTCAGTCACCGTCTCTCA 420